

**CLAIMS**

1           1.       An apparatus comprising:  
2           a printed circuit board having a first face and a second face;  
3           a component to mount on said first face; and  
4           a mechanism to secure said component to said printed circuit board, said mechanism  
5           comprising a clamping apparatus to couple to said component and a through hole mount anchor to  
6           couple to said printed circuit board, said clamping apparatus to couple to said anchor so as to secure  
7           said component to said printed circuit board, said anchor including a loop section to extend from said  
8           first face of said printed circuit board, and a first leg to extend through a first through hole of said  
9           printed circuit board and extend from said second face, said first leg including a compressible section  
10          to compress when inserted into said first hole and to expand after passing through said first hole, said  
11          compressible section to support solder between said compressible section and said second face.

1           2.       The apparatus of claim 1, wherein said through hole mount anchor further includes a  
2           second leg to extend through a second through hole of said printed circuit board and extend from said  
3           second face, said second leg including a compressible section to compress when inserted into said  
4           second hole and to expand after passing through said second hole, said compressible section to  
5           support solder between said compressible section and said second face.

1           3.       The apparatus of claim 1, wherein said compressible section comprises cone-shaped  
2           barbs provided on an end of said first leg.

1           4.       The apparatus of claim 1, wherein said compressible section expands to a distance

2 greater than a diameter of said first hole.

1 5. The apparatus of claim 1, wherein said compressible section is integrally formed with  
2 said first leg.

1 6. The apparatus of claim 1, wherein said compressible section is formed separated from  
2 portions of said first leg.

1 7. The apparatus of claim 1, wherein said mechanism comprises a metallic substance.

1 8. The apparatus of claim 1, wherein said compressible section extends below said  
2 second face of said printed circuit board, and said solder is provided between said compressible  
3 section and said second face and between said first leg and walls of said first hole.

1 9. The apparatus of claim 8, wherein said walls comprise plated through hole walls.

1 10. An apparatus comprising:  
2 a printed circuit board having a first face and a second face, said printed circuit board including  
3 a first hole extending between said first face and said second face;  
4 a component to mount on said first face; and  
5 means for retaining solder in said first hole and on said second face, said means for retaining  
6 comprising an arm to couple to said component and a through hole mount anchor to couple to said  
7 printed circuit board, said arm to couple to said anchor so as to secure said component to said printed

8 circuit board, said through hole mount anchor including a loop to extend from said first face of said  
9 printed circuit board, and a first leg to extend through said first hole of said printed circuit board and  
10 extend from said second face such that solder is retained in said first hole and on said second face.

1 11. The apparatus of claim 10, wherein said first leg includes means for compressing  
2 when inserted into said first hole and for expanding after passing through said first hole, said means for  
3 compressing to support solder on said second face.

1 12. The apparatus of claim 11, wherein said means for compressing comprises cone-  
2 shaped barbs provided on an end of said first leg.

1 13. The apparatus of claim 11, wherein said means for compressing expands to a  
2 distance greater than a diameter of said first hole.

1 14. The apparatus of claim 11, wherein said means for compressing is integrally formed  
2 with said first leg section.

1 15. The apparatus of claim 11, wherein said means for compressing is separated formed  
2 from other portions of said first leg.

1 16. The apparatus of claim 11, wherein said means for compressing extends below said  
2 second face of said printed circuit board, and said solder is provided between said means for  
3 compressing and said second face and between said first leg and walls of said first hole.

1           17.     An anchoring mechanism to mount to a printed circuit board, said anchoring  
2 mechanism comprising a loop, a first leg extending from said loop, said first leg to mount through a first  
3 hole of said printed circuit board and includes a compressible section to compress when inserted into  
4 said first hole and to expand after passing through said first hole, said compressible section to support  
5 solder between said anchoring mechanism and said first hole.

1           18.     The anchoring mechanism of claim 17, further comprising a second leg extending from  
2 said loop, said second leg to mount through a second hole of said printed circuit board and includes a  
3 compressible section to compress when inserted into said second hole and to expand after passing  
4 through said second hole, said compressible section to support solder between said anchoring  
5 mechanism and said second hole.

1           19.     The anchoring mechanism of claim 17, wherein said compressible section comprises  
2 cone shaped barbs provided on an end of said first leg.

1           20.     The anchoring mechanism of claim 17, wherein said compressible section expands to  
2 a distance greater than a diameter of said first hole.

1           21.     A method of securing a component by use of an anchoring mechanism, said method  
2 comprising:

3                 compressing a solder retention section of said anchoring mechanism as said solder retention  
4 section is inserted into a hole on a printed circuit board;

5 passing said solder retention section through said hole;  
6 enlarging said solder retention section of said anchoring mechanism after said solder retention  
7 section passes through said hole such that said solder retention section is wider than a diameter of  
8 said hole; and  
9 anchoring said anchoring mechanism to said printed circuit board by applying solder to an area  
10 between a face of said printed circuit board and said solder retention section as well as to areas within  
11 said hole.

1 22. The method of claim 21, wherein said solder retention section comprises cone-shaped  
2 barbs.

1 23. The method of claim 21, wherein said solder is applied by wave soldering along said  
2 face of said printed circuit board.

1 24. The method of claim 21, further comprising attaching a clamping apparatus to said  
2 anchoring mechanism anchored to said printed circuit board.

1 25. An anchoring mechanism comprising a loop, a first leg extending from said loop, and a  
2 second leg extending from said loop, said first leg including a first solder retention section on a tip of  
3 said first leg and a second solder retention section on a tip of said second leg.

1 26. The anchoring mechanism of claim 25, wherein said first solder retention section  
2 compresses when inserted into a hole and expands after passing through said hole, said first solder

3 retention section to support solder between said first solder retention section and said hole.

1 27. The anchoring mechanism of claim 25, wherein said first solder retention section comprises  
2 cone-shaped barbs.

1 28. The anchoring mechanism of claim 25, wherein said second solder retention section  
2 compresses when inserted into a hole and expands after passing through said hole, said first solder  
3 retention section to support solder between said second solder retention section and said hole.

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